(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 11 August 2005 (11.08.2005)

(10) International Publication Number WO 2005/073441 A1

(51) International Patent Classification7:

D01D 5/00

(21) International Application Number:

PCT/KR2004/000166

(22) International Filing Date: 30 January 2004 (30.01.2004)

(25) Filing Language:

Korean

(26) Publication Language:

English

(71) Applicant (for all designated States except US): RAISIO CHEMICALS KOREA INC. [KR/KR]; 178-1, Hwakye-ri, Dong-myeon, Cheonan-si, Chungcheongnam-do 330-090 (KR).

(71) Applicant and

(72) Inventor: KIM, Hak-Yong [KR/KR]; 410-6, Pyunghwadong 2ga, Wansan-gu, Jeonju-si, Chonrabuk-do 560-865

Agent: CHO, Hwal-Rai; Suite 1507, Yoksam Heights Bldg, 642-19, Yoksam-dong, Kangnam-gu, Seoul 135-981 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

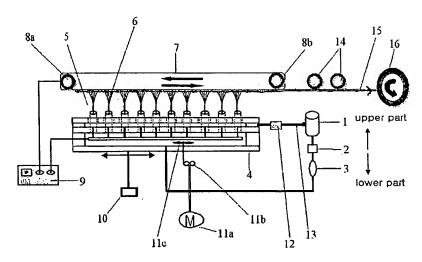
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A BOITOM-UP ELECTROSPINNING DEVICES, AND NANOFIBERS PREPARED BY USING THE SAME



(57) Abstract: A conventional electrospinning devices is problematic in that the productivity is low and a droplet, by which a spinning liquid is not formed into fiber but dropped in a drop shape, occurs, to thereby deteriorate the quality of a nonwoven fabric. To solve the above problem, the present invention provides an bottom-up electrospinning devices, comprising: a spinning liquid main tank I; a metering pump 2; a nozzle block 4; nozzles 5 installed on the nozzle block; a collector 7 for collecting fibers being spun from the nozzle block; and a voltage generator 9 for applying a voltage to the nozzle block 4 and the collector 7, wherein [A] the outlets of nozzles 5 installed on a nozzle block are formed in an upper direction; [B] a collector 7 is located on the top part of the nozzle block; and [C] a spinning liquid discharge device 12 is connected to the uppermost part of the nozzle block 4.